Actiontec™

11Mbps

Wireless Access Point

User Manual

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Introduction 1

Thank you for purchasing the *Action*tec 11Mbps Access Point. This Access Point is the simplest way to create a wireless network for your home office or small business. If you want to take your computing to the next level, the *Action*tec 11Mbps Access Point is one of the keys to your success.

Package Contents

- *Action*tec 11Mbps Access Point
- Power adapter
- Ethernet cable (cross-over type, for connecting to hub or switch)
- USB cable
- Installation CD (includes user manual)
- Quick start guide
- Warranty and registration card

Minimum System Requirements

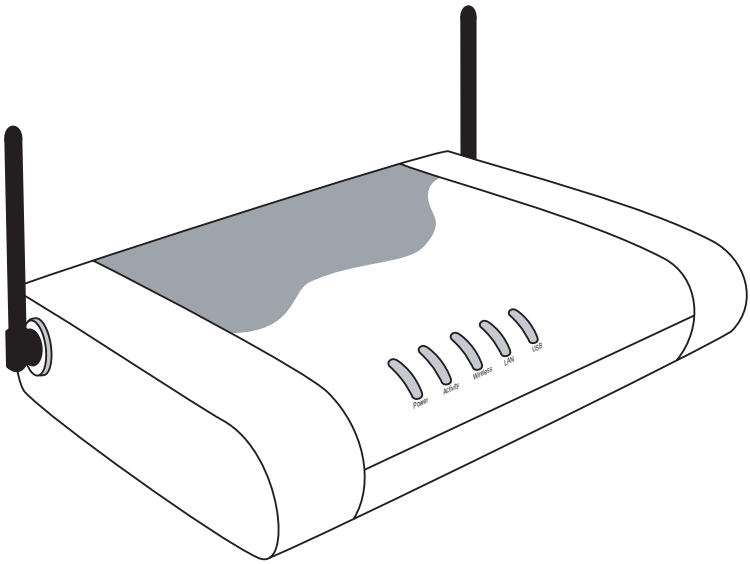
- Computer(s) with the following:
  - a 10 Mbps or 10/100 Mbps Ethernet, or USB connection
  - Microsoft Windows 98, 98 Second Edition (SE), Millennium Edition (Me), 2000, or XP
  - Internet Explorer 4.0 or higher (5.x recommended) or Netscape Navigator 4.0 or higher (4.7 recommended)
- TCP/IP network protocol installed
- All computers included on the wireless network must have wireless networking capabilities

Access Point Features

The Access Point has a series of LEDs on its front panel, and a series of ports on its rear panel. It is recommended that the user become familiar with these features before installing or setting up the Access Point.

Front Panel

There are five LEDs (light emitting diodes) on the front panel of the Access Point, as shown in the figure, below.



Power LED

The Power LED glows green when power is supplied to the Access Point. When it blinks, the Access Point is going through its initialization process.

Activity LED

The Activity LED flickers green when the Access Point is sending and/or receiving data.

Wireless LED

The Wireless LED glows green when the Access Point is ready to start.

LAN LED

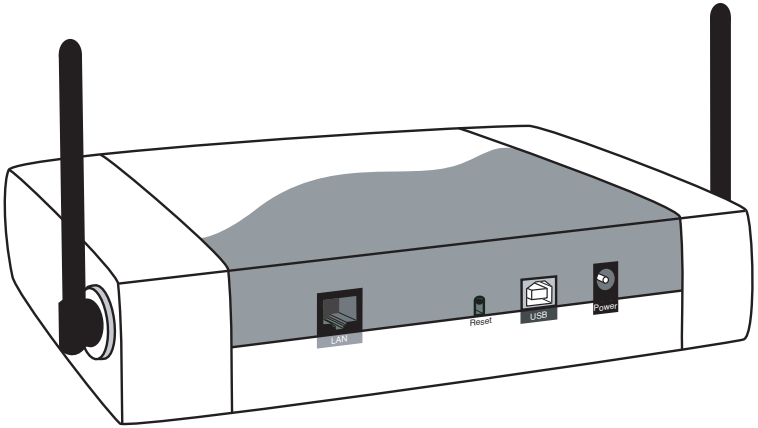
The LAN LED glows green when the Access Point is successfully connected to a LAN (Local Area Network).

USB LED

The USB LED glows green when the Access Point is successfully connected to a computer with a USB cable.

Rear Panel

The Access Point has three ports and a Reset button on its rear panel.



LAN Port

The LAN port is used to connect the Access Point to a hub or computer with the Ethernet cable.

USB Port

The USB port is used to connect the Access Point to a computer with the USB cable.

Power Port

The Power port is used to connect the Access Point's Power cord.

Reset Button

The Reset button is used to reset the Access Point and restore the factory default settings.

Technical Support

*Action*tec Electronics, Inc., prides itself on making durable, high-quality, high-performance products. If you need assistance, the *Action*tec Technical Support Department is available every day from 6 A.M. to 11 P.M. (MST) to provide professional support.

_Action_tec Electronics, Inc.

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Wireless Networking Basics 2

Wireless networking connects computers to each other using radio signals rather than wires. This allows users the freedom to move around and work anywhere within the range of the wireless network.

The range of a wired network usually depends on the number and power of its access points. Access points transmit wireless signals over a defined area. Installing a series of access points across a large area expands the range of a wireless network.

The *Action*tec 11Mbps Wireless Access Point, when used with computers with the *Action*tec 11Mbps Wireless PC Card installed, creates a seamless and easy-to-use wireless networking environment.

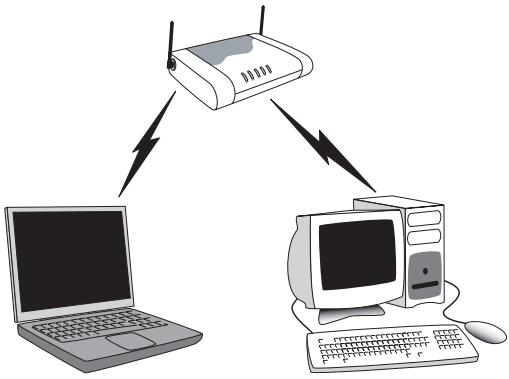
The following sections give an overview of the options available when setting up a wireless network.

Creating a Wireless Network

Creating a wireless network involves two basic steps:

1. Setting up an access point to send and receive wireless network signals.
2. Setting up computers to send and recieve wireless network signals from the access point(s).

A typical wireless network may look similar to the one in the figure, below.



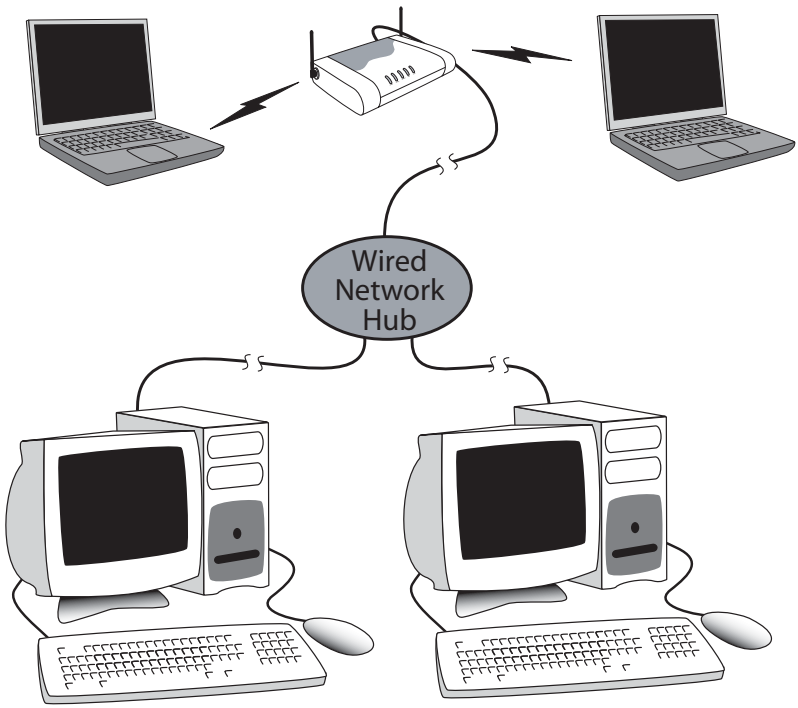
All of the wirelessly networked computers (also known as clients) communicate with each other through the access point, which acts as a wireless hub.

Extending a Wired Network

To add wireless networking to an established wired network:

1. Connect the access point(s) to the wired network. This is usually done with an Ethernet cable connecting a wired network hub to an access point.
2. Set up the access point(s) to send and receive wireless network signals.
3. Set up computers (wireless clients) to send and recieve wireless network signals from the access point(s).

The figure below illustrates one possibility for extending a wired network:



The access point is wired to a hub, which in turn is connected to a traditionally wired network. The notebook computer (or client), set up to receive wireless networking signals, can access the wired network via the access point.

☞ ***Note***: An additional computer can be connected to the Access Point in this configuration via USB cable.

Creating a Wireless Network from a Single Computer

It is also possible to connect an access point to a single computer, instead of a network hub. This method can be used to share the computer's Internet connection among the wireless clients, and is a common way to use a wireless network in the home.

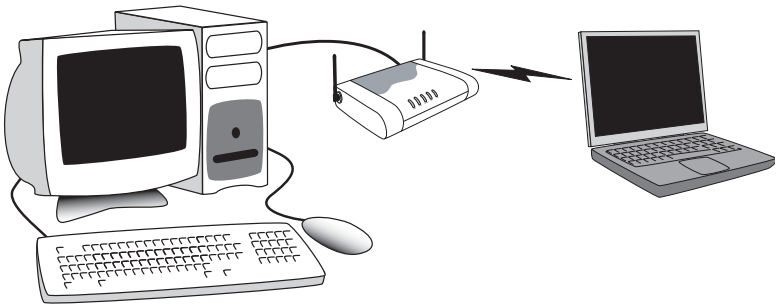
To create a wireless network from a single computer:

1. Connect the access point to the computer. This is usually done with an Ethernet cable connecting the computer to the access point. The *Action*tec 11 Mbps Access Point can also connect to the computer with a USB cable.

2. Set up the access point to send and receive wireless network signals.

3. Set up computers (wireless clients) to send and recieve wireless network signals from the access point(s).

The figure below shows a typical access point - computer setup:



The access point is wired to the computer (usually, this computer will have an Internet connection). The notebook computer (wireless client) can access the wired computer, as well as use the Internet connection to surf the Web.

Next, go to "Installing the Access Point" on page 11 to connect and mount the Access Point.

Installing the Access Point

3

Before Installing

Before installing the Access Point, be aware that this device can subject the user to electrical shock. Follow the guidelines in this manual and the manuals of any other equipment used during the installation. Failure to do so may result in injury or damage to the equipment.

> ***Important***: This Access Point is a 2.4 GHz low-power RF device. It is intended for home and office use in all EU member states except France, where restrictive use applies.

Connecting the Access Point

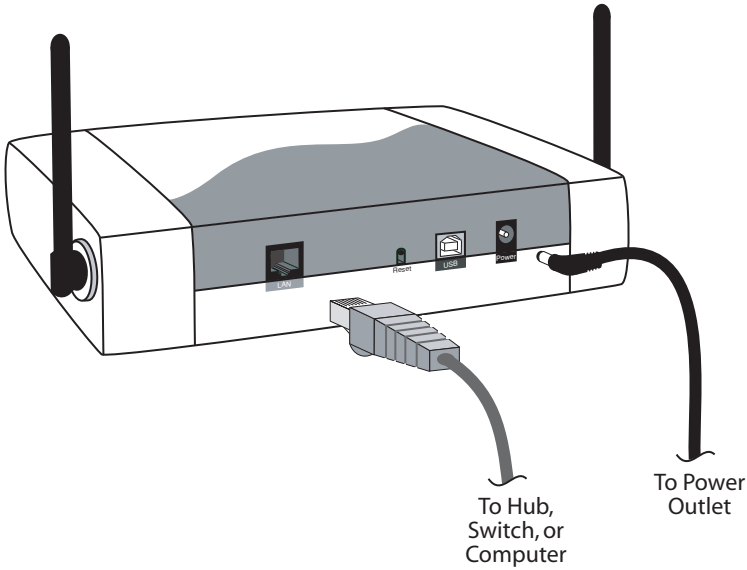
To connect the Access Point to a network hub, switch, or computer (via Ethernet cable), use the following procedure:

1. Plug one end of the Power cable in the Power port on the back of the Access Point, and the other end in a power outlet. The Power LED on the front panel of the Access Point flashes green until the initialization process is complete, then glows steadily green.

2a. If connecting to a network hub or switch, plug one end of a **cross-over** Ethernet cable (included with the Access Point) in the LAN port on the back of the Access Point , and plug the other end into the hub or switch. See the figure on the next page.

2b. If connecting to a computer for wireless network usage or for adminstration of an access point (using the Web Configuration Utility to change an access point's settings, for example), plug one end of a **straight-through** Ethernet cable (purchased separately) in the LAN port on the back of the Access Point, and plug the other end into the computer. See the figure below.

☞ ***Note***: Do not use the Ethernet cable included with the Access Point to connect to a computer. This Ethernet cable is a cross-over type, and is used to connect the Access Point to a network hub or switch.



Placing or Mounting the Access Point

The Access Point can be placed on a flat surface (such as a desktop). Ensure there are no obstructions around the Access Point that may interfere with the sending and receiving of wireless signals.

The Access Point can also be mounted on a wall. On the bottom panel of the Access Point are four screw mounting holes. Insert two screws into the wall, and ensure the screw heads protrude slightly from the wall surface. Mount the access point on the wall.

☞ ***Note***: If planning to mount the Access Point in a hard-to-reach location, ensure the cables are connected and the Access Point is configured properly before mounting.

Next, go to "Setting Up the Access Point" on page 13.

Setting Up the Access Point

4

The Access Point is a ready-to-use device. Its factory default settings allow the user to access the wireless network after making a few adjustments to the wireless clients. See "Settings" on page 15 for more information on adjusting the wireless clients to communicate via the Access Point.

The configuration capabilities of the Access Point include changing the security settings, radio channels, IP addresses, and client access privileges.

Wireless Access Point Configuration Utility

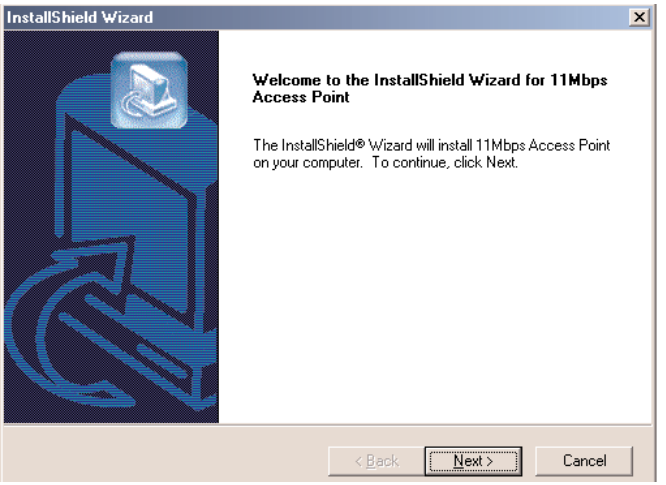
The Wireless Access Point Configuration Utility contains two parts: a) the *Action*tec AP Wizard that locates all access points available to the computer; and b) a Web-based configuration utility that allows the user to change the settings for a selected access point.

Loading and Using the *Action*tec AP Wizard

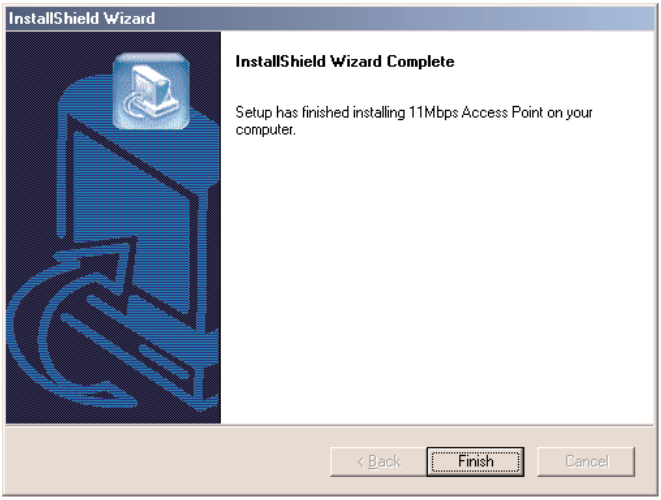
1. Insert the Installation CD in the CD-ROM drive of the computer connected to the Access Point.

2. The InstallShield Wizard launches. If the InstallShield Wizard does not launch, double-click on the file **SETUP.EXE** in the CD's root directory.

3. When the first InstallShield Wizard window appears, click **Next**.


InstallShield Wizard
Welcome to the InstallShield Wizard for 11Mbps Access Point
The InstallShield® Wizard will install 11Mbps Access Point on your computer. To continue, click Next.
< Back
Next >
Cancel

4. The *Action*tec AP Wizard software loads. When complete, click **Finish**.



5. From the desktop, launch the *Action*tec AP Wizard by selecting **Start**, **Programs**, then ***Action*tec Access Point**.

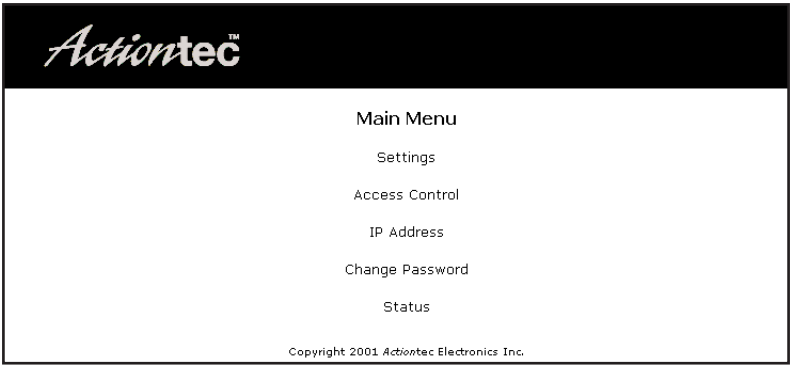
6. Select the Access Point and click **Configure**.

7. The Web Configuration Utility launches. Go to the next section, "Configuring the Access Point," to change the settings of the Access Point.

Configuring the Access Point

Once an access point is selected in the *Action*tec AP Wizard, the Web Configuration Utility launches and the "Main Menu" screen appears.

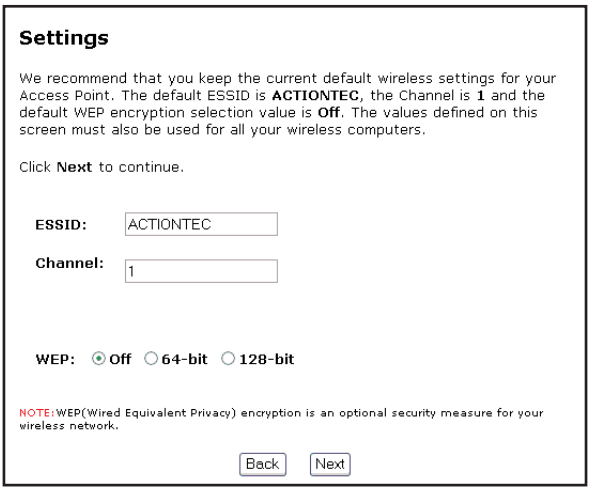
☞ ***Note***: The Web Configuration Utility can be accessed directly from a computer on the network without loading the AP Wizard, if the computer and the Access Point are on the same subnet. See "Appendix A - Setting Up Static IP" on page 23 for details.



There are five options available in the Main Menu. To select an option, click it and its screen appears.

Settings

In the "Settings" screen, the Access Point's ESSID and Channel values can be changed, as well as the level of WEP encryption.


Settings
We recommend that you keep the current default wireless settings for your Access Point. The default ESSID is ACTIONTEC, the Channel is 1 and the default WEP encryption selection value is Off. The values defined on this screen must also be used for all your wireless computers.
Click Next to continue.
ESSID: ACTIONTEC
Channel: 1
WEP: Off 64-bit 128-bit
NOTE: WEP(Wired Equivalent Privacy) encryption is an optional security measure for your wireless network.
Back
Next

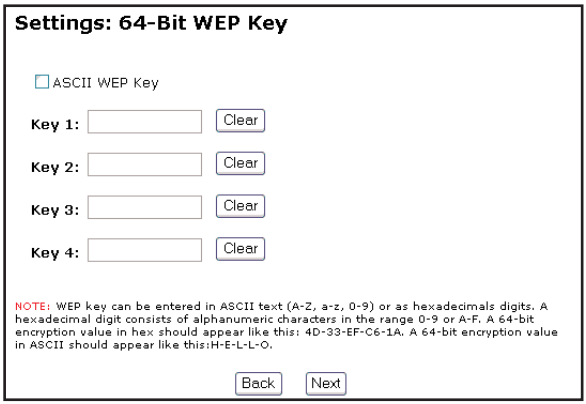
- ***ESSID*** is the network name assigned to the wireless network. The factory default setting is "ACTIONTEC." Although *Action*tec recommends keeping the default value intact, the ESSID value can be modified, using any combination of alphanumeric characters (i.e., A-Z, a-z, 0-9). All clients must have this same ESSID value. (For the *Action*tec 802.11b Wireless PC Card, the ESSID value must be the same as the SSID value. The SSID value can also be called the Network Name.) Note that the ESSID is case sensitive.

- ***Channel*** assigns the frequency band at which the Access Point communicates. In the United States, use channels 1-11. (The factory default value is set to 1.)

- ***Wireless Equivalent Privacy (WEP)*** is an encryption method used with the 802.11b standard to ensure data security over wireless networks. The Access Point offers three levels of WEP: Off, 64-bit, and 128-bit. If encryption is not required, *Action*tec recommends selecting Off (the factory default setting). Encryption is not required for wireless operation, and can reduce network performance. If selecting 64-bit or 128-bit encryption, activate click the respective radio button, then click Next.

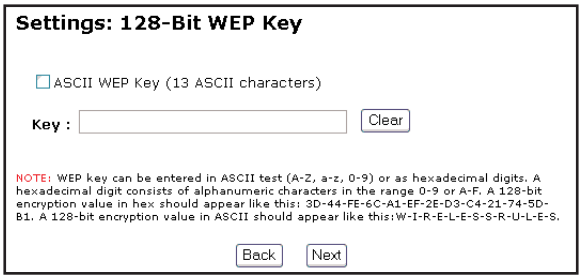
  Off disables encryption. Selecting this option allows any computer with wireless capability and the correct ESSID value to join the wireless network.

  64-bit WEP requires four separate keys. Each key comprises five hexadecimal digit pairs. A hexadecimal digit consists of an alphanumeric character ranging from 0-9 or A-F. An example of a 64-bit WEP key is: 4E-A3-3D-68-72. To create a set of 64-bit WEP keys, enter five hexadecimal digit pairs in each **Key** text box (**Key 1**, **Key 2**, **Key 3**, **Key 4**). After activating 64-bit WEP on the Access Point, a client can join the network only if these same keys are entered in that client's wireless encryption scheme.
  The WEP keys can also be entered in ASCII text. To do this, click the **ASCII WEP key** check box, then enter the keys in ASCII text.


Settings: 64-Bit WEP Key
ASCII WEP Key
Key 1:
Clear
Key 2:
Clear
Key 3:
Clear
Key 4:
Clear
NOTE: WEP key can be entered in ASCII text (A-Z, a-z, 0-9) or as hexadecimals digits. A hexadecimal digit consists of alphanumeric characters in the range 0-9 or A-F. A 64-bit encryption value in hex should appear like this: 4D-33-EF-C6-1A. A 64-bit encryption value in ASCII should appear like this:H-E-L-L-O.
Back
Next

128-bit WEP requires one key of 13 hexadecimal pairs. A hexadecimal digit consists of alphanumeric characters ranging from 0-9 or A-F. An example of a 128-bit WEP key is: 3D-44-FE-6C-A1-EF-2E-D3-C4-21-74-5D-B1. To create a 128-bit WEP key, enter 13 hexadecimal digit pairs in the Key text box. After activating 128-bit WEP on the Access Point, a client can join the network only if this key is entered in that client's wireless encryption scheme. The WEP key can alos be entered in ASCII text. To do this, click the **ASCII WEP key** check box, then enter the key in ASCII text.

☞ ***Note***: Not all wireless PC Cards support 128-bit WEP. Ensure all wireless PC Cards installed in the clients support 128-bit WEP before activating.


Settings: 128-Bit WEP Key
ASCII WEP Key (13 ASCII characters)
Key :
Clear
NOTE: WEP key can be entered in ASCII test (A-Z, a-z, 0-9) or as hexadecimal digits. A hexadecimal digit consists of alphanumeric characters in the range 0-9 or A-F. A 128-bit encryption value in hex should appear like this: 3D-44-FE-6C-A1-EF-2E-D3-C4-21-74-5D-B1. A 128-bit encryption value in ASCII should appear like this:W-I-R-E-L-E-S-S-R-U-L-E-S.
Back
Next

Access Control

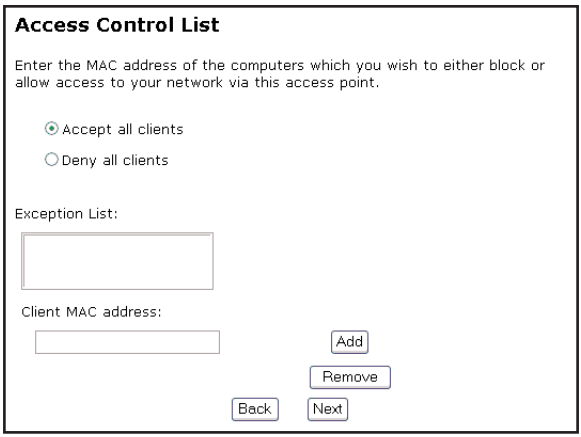
In the "Access Control" screen, the user can block clients from using the Access Point.To deny or accept particular clients, enter the MAC (Media Access Control) address of the client in the "Client MAC address" text box, then click **Add**.

☞ ***Note***: Ensure the MAC address entered is in the correct format (i.e., six sets of two hexidecimal numbers separated by colons). A properly formatted MAC address would be the following:

`00:20:ea:08:00:17`

If an incorrectly formatted MAC address is entered, an error message stating that an invalid MAC address has been entered appears. If this occurs, enter a properly formatted MAC address.

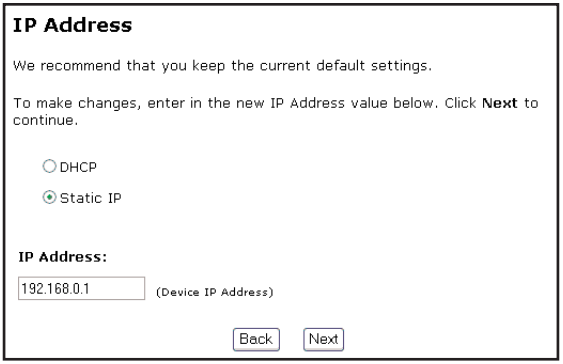
The client's MAC address is added to the "Exception List" text box. If Accept all clients is activated, all entries entered in the Exception List are denied access. If Deny all clients is activated, all entries in the Exception List are allowed access. To remove a client from the Exception List, select it from the Exception List text box, then click **Remove**.


Access Control List
Enter the MAC address of the computers which you wish to either block or allow access to your network via this access point.
Accept all clients
Deny all clients
Exception List:
Client MAC address:
Add
Remove
Back
Next

IP Address

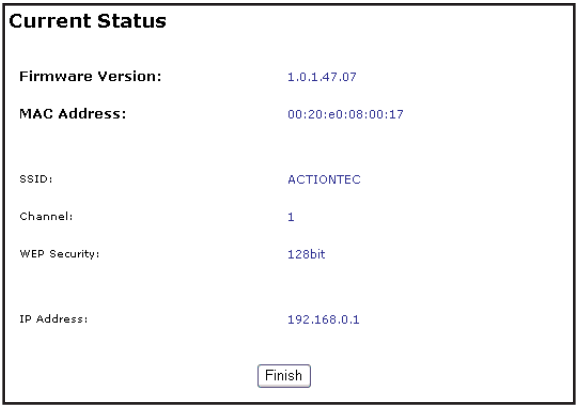
In the "IP Address" screen, the Access Point can be set up with DHCP (Dynamic Host Configuration Protocol) client capabilities, or the IP address of the Access Point can be changed. *Action*tec recommends keeping the default factory IP address (192.168.0.1), but if a different IP address is needed, enter it in the "IP Address" text box.

To allow the Access Point to obtain an IP address from a DHCP server on the network, select **DHCP**.



Status

The "Current Status" screen contains the Access Point's current configuration information. No settings can be changed from this screen.



Change Admin Password

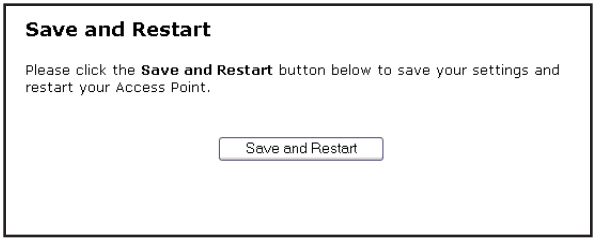
To change the Access Point's password, select **Change Admin Password** in the "Setup/Configuration" screen. When the "Change Admin Password" screen appears, enter a new password in the **New Password** text box, enter it again in the **Re-enter New Password** text box, then click **Save and Restart**.

Change Admin Password
New Password
Re-enter New Password
Please click the Save and Restart button below to save your settings and restart your Access Point.
Save and Restart

The next time the Web Configuration Utility is accessed, the user is prompted for the user name and password. The user name is "admin," and the password is the one chosen in the Change Admin Password screen.

Save and Restart

After finishing making changes to the Access Point's settings, click **Save and Restart** to save the settings. Note that the Access Point will restart after clicking Save and Restart.


Save and Restart
Please click the Save and Restart button below to save your settings and restart your Access Point.
Save and Restart

Troubleshooting 5

This chapter details some potential problems that may occur while using the Access Point, and solutions to overcome them. Also included here are frequently answered questions and their respective answers.

Troubleshooting

The AP Wizard doesn't locate the Access Point.

There are several possible solutions when this occurs:

- Check the Power LED and ensure the Access Point's power cord is connected correctly.
- Ensure the proper kind of Ethernet cable is used. If the Access Point is connected to a hub or switch, a cross-over Ethernet cable (included with the Access Point) must be used. If the Access Point is connected to a computer, a straight-through Ethernet cable (available at most retail electronics locations) must be used.
- Ensure the computer is within range of the Access Point.

My Web browser can't access Web Configuration Utility

- Ensure the Web browser being used is not using a proxy server to connect to the Access Point.

Frequently Asked Questions

How far can I be from the Access Point and still connect?

The Access Point's range depends on many factors, including the position of the Access Point, physical obstructions (walls, terrain, etc.), and other environmental anomalies. Generally, however, indoor range is approximately 50 meters (150 ft.); outdoor range is approximately 300 meters (1000 ft.).

How fast is the wireless network?

The wireless network's optimal speed is 11Mbps (megabits per second). Distance from the Access Point and obstacles interfering with the wireless signal will slow the network speed.

Can I connect a DSL or Cable Modem to the Access Point?

Yes, if the modem has an Ethernet port.

Can I share an Internet connection through the Access Point?

Yes, but you must install a gateway device between your Internet connection (DSL modem, etc.) and the Access Point, and then configure the wireless clients to connect to the gateway and the Access Point.

Can I manually launch the Web Configuration Utility?

Yes. Open your Web browser and enter the following in the Address bar:

`http://192.168.0.1/`

This IP address is the factory default value. If the IP address of the Access Point has been changed, enter that value instead. Ensure that the computer and the Access Point are on the same subnet. See "Appendix A - Setting Up Static IP" on page 23 for more details.

Setting Up Static IP

A

To communicate directly with the Access Point from a computer on the network (to use the Web Configuration Utility, for example) via a crossover Ethernet cable or hub/switch, the user may have to switch the IP address settings from DHCP-enabled to Static IP, so that the computer and the Access Point are on the same subnet.

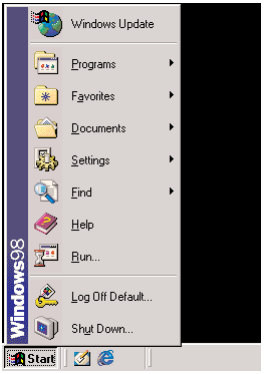
To set up static IP on a computer, select the operating system and follow the instructions.

☞ ***Note***: The following procedures are based on the Access Point's factory default IP address. If the Access Point's IP address has been changed, enter the new IP address when instructed to enter an IP address.

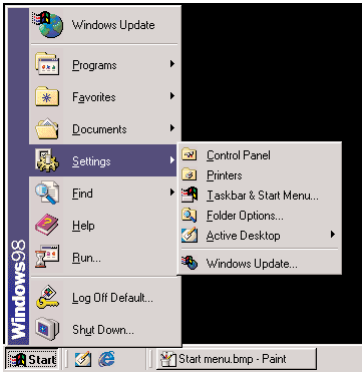
Windows 98 and 98 SE

1. From the desktop, click on the **Start** button in the lower left corner.

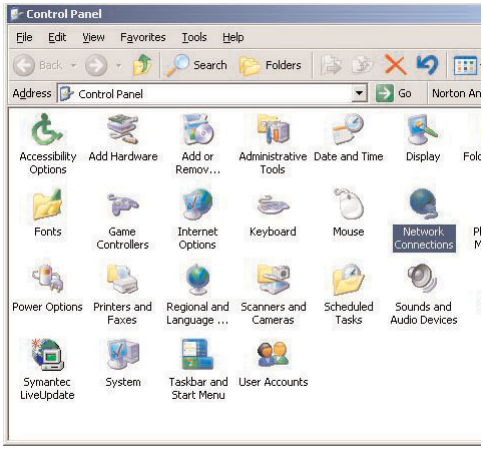
2. From the menu that appears, select **Settings**.



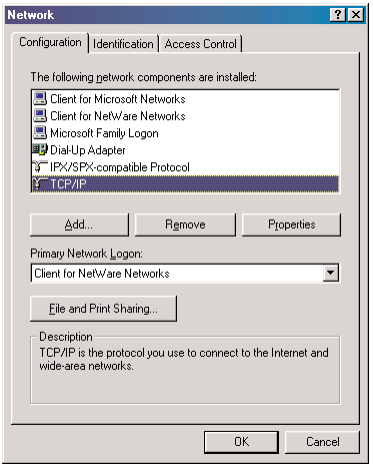
3. Another menu appears. Select **Control Panel**.



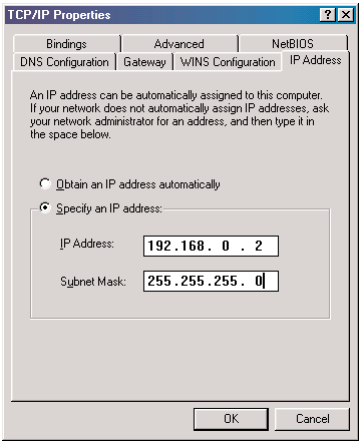
4. When the "Control Panel" window appears, double-click **Network**.



5. The “Network” window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The “TCP/IP Properties” window appears. Select **IP Address**.



7. In the IP Address tab, activate "Specify an IP Address" by clicking on the circle. When active, a black dot will appear in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following numbers in the "IP Address" text box:

`192.168.0.2`

Don't include the periods; they are automatically entered.

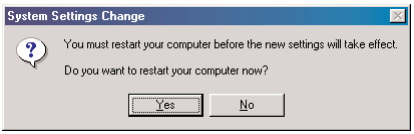
9. Enter the following numbers in the "Subnet mask" text box:

`255.255.255.0`.

10. Click **OK**. The TCP/IP Properties window disappears.

11. In the Network window, click **OK**. The Network window disappears.

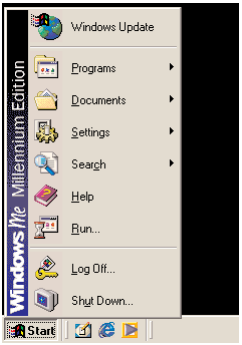
12. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

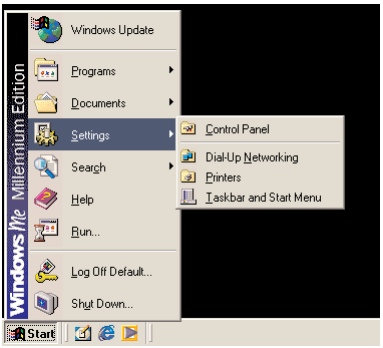
13. The computer restarts. The IP address on the computer is changed.

Windows Me

1. From the desktop, click on the **Start** button in the lower left corner.
2. From the menu that appears, select **Settings**.

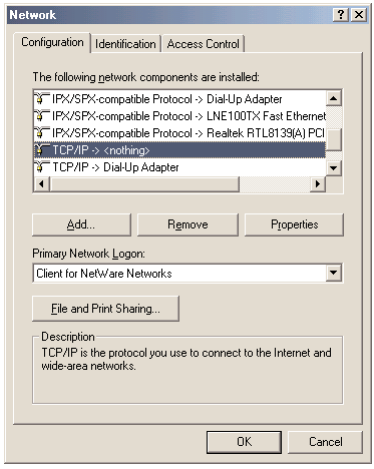


3. Another menu appears. Select **Control Panel**.

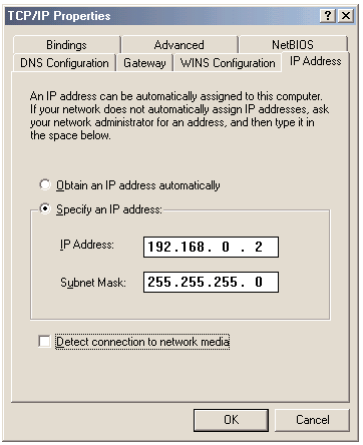


4. When the "Control Panel" window appears, double-click **Network**.

5. The "Network" window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The "TCP/IP Properties" window appears. Click **IP Address**.


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
192.168. 0 . 2
Subnet Mask:
255.255.255. 0
Detect connection to network media
OK
Cancel

7. In the IP Address tab, activate "Specify an IP Address" by clicking on the circle. When active, a black dot will appear in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following numbers in the "IP Address" text box:

`192.168.0.2`

Don't include the periods; they are automatically entered.

9. Enter the following numbers in the "Subnet mask" text box:

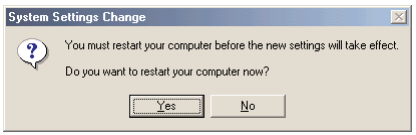
`255.255.255.0`

10. Click **OK**. The TCP/IP Properties window disappears.

11. If there is a check in the box next to "Detect connection to network media," click on it to uncheck the box.

12. In the Network window, click **OK**. The Network window disappears.

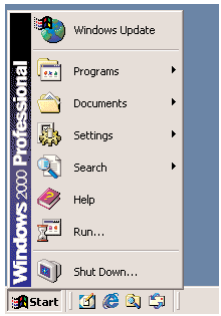
13. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

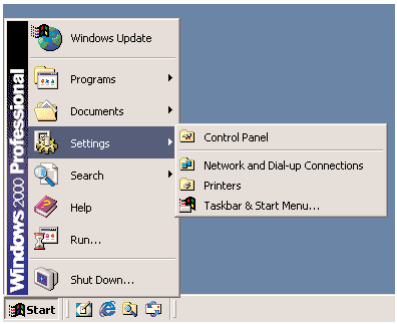
14. The computer restarts. The IP address on the computer is changed.

Windows 2000

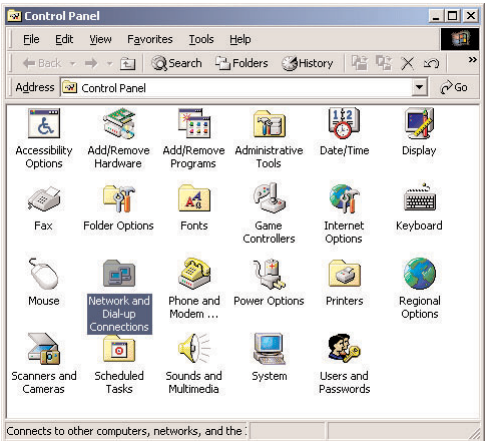
1. From the desktop, click on the **Start** button in the lower left corner.
2. From the menu that appears, select **Settings**.



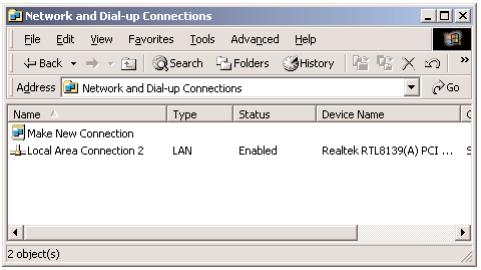
3. Another menu appears. Select **Control Panel**.



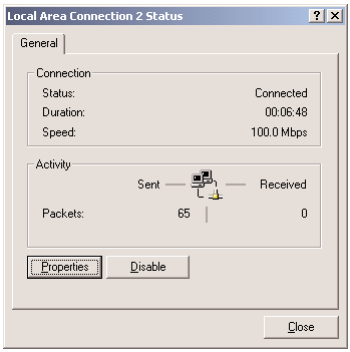
4. When the "Control Panel" window appears, double-click **Network and Dial-up Connections**.



5. In the "Network and Dial-up Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If there is more than one Local Area Connection listed, locate the one that corresponds to the network card installed in the computer by finding the name of the network card in the **Device Name** column.

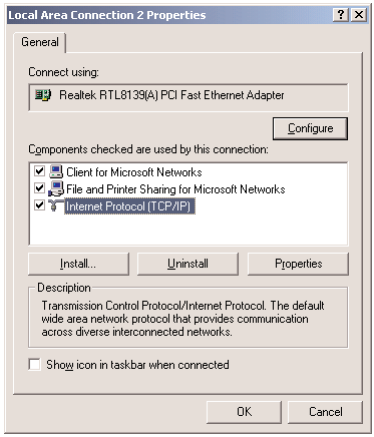


6. The "Local Area Connection Status" window appears. Select **General**, then click **Properties**.

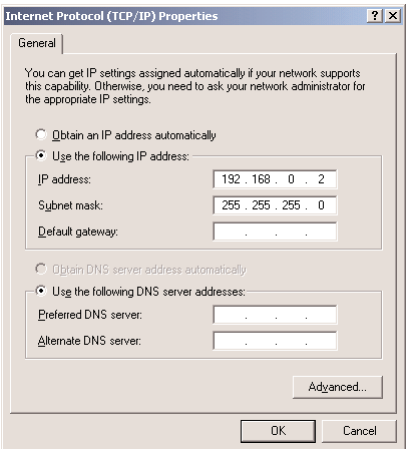


7. The "Local Area Connection Properties" window appears. Click **General**.

8. In the "Components checked are used by this connection" list box, double-click **Internet Protocol (TCP/IP)**.



9. The "Internet Protocol (TCP/IP) Properties" window appears.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 2
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

10. In the **General** tab, activate "Use the following IP address" by clicking on the circle. When active, a black dot will appear in the circle. If the circle already contains a black dot, leave it alone.

11. Enter the following numbers in the "IP Address" text box:

`192.168.0.2`

You don't have to include the periods; they are automatically entered.

12. Enter the following numbers in the "Subnet mask" text box:

`255.255.255.0`

13. Click **OK**. The "Internet Protocol (TCP/IP) Properties" window disappears.

14 In the "Local Area Connection Properties" window, click **OK**. The Local Area Connection Properties window disappears.

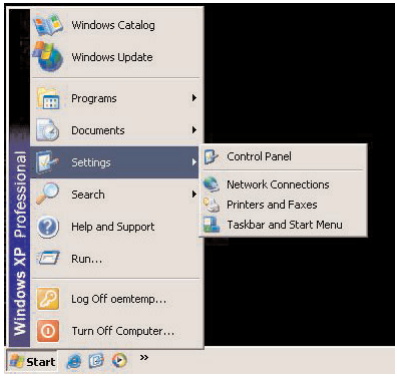
15. Click **Close** in the Local Area Connection Status window. The window disappears.

16. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window. The IP address on the computer is changed.

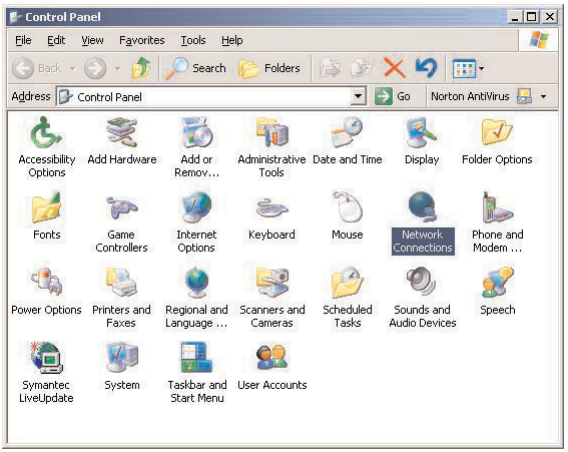
Windows XP

1. From the desktop, click on the **Start** button in the lower left corner.
2. From the menu that appears, select **Settings**.

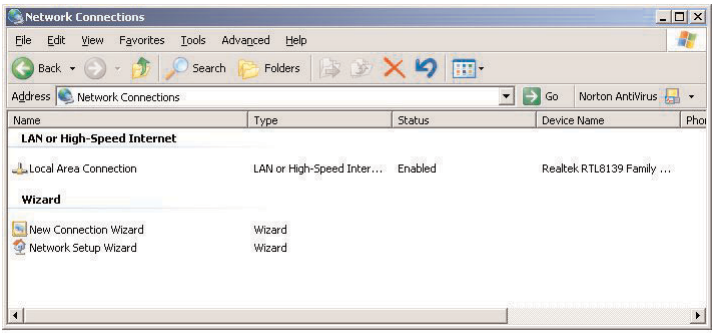
3. Another menu appears. Select **Control Panel**.



4. When the "Control Panel" window appears, double-click **Network Connections**.



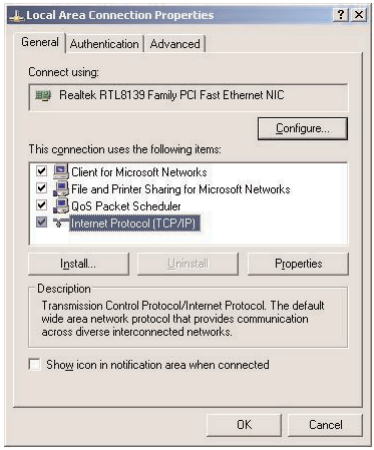
5. In the "Network Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If there is more than one Local Area Connection listed, locate the one that corresponds to the network card installed in your computer by finding the name of the network card in the **Device Name** column.



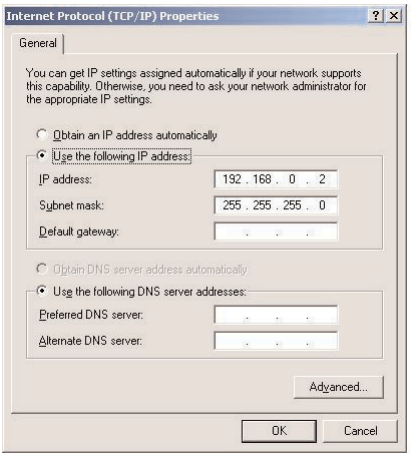
6. The "Local Area Connection Status" window appears. Select **General**, then click **Properties**.

7. The "Local Area Connection Properties" window appears. Select **General**.

8. In the "Components checked are used by this connection" list box, double-click **Internet Protocol (TCP/IP)**.



9. The "Internet Protocol (TCP/IP) Properties" window appears.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 2
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

10. In the **General** tab, activate "Use the following IP address" by clicking on the circle. When active, a black dot will appear in the circle. If the circle already contains a black dot, leave it alone.

11. Enter the following numbers in the "IP Address" text box:

`192.182.0.2`

Don't include the periods; they are automatically entered.

12. Enter the following numbers in the "Subnet mask" text box:

`255.255.255.0`

13. Click **OK**. The Internet Protocol (TCP/IP) Properties window disappears.

14 In the Local Area Connection Properties window, click **OK**. The Local Area Connection Properties window disappears.

15. Click **Close** in the Local Area Connection Status window. The window disappears.

16. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window. The IP address on the computer is changed.

Specifications

B

General

Standards

IEEE 802.3 (10BaseT)
IEEE 802.3u (100BaseTX)
IEEE 802.11b (Wireless)

LAN

10/100 RJ-45 port (1)
USB port (1)

Speed

LAN Ethernet: 10/100Mbps
Wireless: See "Wireless Operating Range"

Cabling Type

10BaseT: UTP/STP Category 3 or 5
100BaseTX: UTP/STP Category 5
USB

Wireless Operating Range

Indoors

Up to 30M (100 ft.) @ 11 Mbps
Up to 50M (165 ft.) @ 5.5 Mbps
Up to 70M (230 ft.) @ 2 Mbps
Up to 91M (300 ft.) @ 1 Mbps

Outdoors

Up to 152M (500 ft.) @ 11 Mbps
Up to 270M (885 ft.) @ 5.5 Mbps
Up to 396 (1300 ft.) @ 2 Mbps
Up to 457M (1500 ft.) @ 1 Mbps

Topology

Star (Ethernet)

LED Indicators

Power, Activity, Wireless, LAN, USB

Environmental

Power Input

External, 6.5V DC, 2 A

Certifications

FCC Class C (part 15, 68)
CE Mark Commercial
UL

Operating Temperature

0° C to 40° C (32°F to 104°F)

Storage Temperature

-20°C to 70°C (-4°F to 158°F)

Operating Humidity

10% to 85% non-condensing

Storage Humidity

5% to 90% non-condensing

Notices

Regulatory Compliance Notices

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by implementing one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and receiver;
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by A*ction*tec Electronics, Inc., may void the user's authority to operate the equipment.

Declaration of conformity for products marked with the FCC logo – United States only.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;
2. This device must accept any interference received, including interference that may cause unwanted operation.

☞ ***Note***: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

For questions regarding your product or the FCC declaration, contact:

*Action*tec Electronics, Inc.
760 North Mary Ave.
Sunnyvale, CA 94086
United States
Tel: (408) 752-7700
Fax: (408) 541-9005

Limited Warranty

Hardware: *Action*tec Electronics, Inc., warrants to the end user ("Customer") that this hardware product will be free from defects in workmanship and materials, under normal use and service, for twelve (12) months from the date of purchase from *Action*tec Electronics or its authorized reseller.

*Action*tec Electronics' sole obligation under this express warranty shall be, at *Action*tec's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, *Action*tec Electronics may, in its sole discretion, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of *Action*tec Electronics, Inc. Replacement products may be new or reconditioned. *Action*tec Electronics warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

Software: *Action*tec Electronics warrants to Customer that each software program licensed from it will perform in substantial conformance to its program specifications, for a period of ninety (90) days from the date of purchase from *Action*tec Electronics or its authorized reseller. *Action*tec Electronics warrants the media containing software against failure during the warranty period. The only updates that will be provided are at the sole discretion of *Action*tec Electronics and will only be available for download at the *Action*tec Web site, www.actiontec.com. *Action*tec Electronics' sole obligation under this express warranty shall be, at *Action*tec Electronics' option and expense, to refund the purchase price paid by Customer for any defective software product, or to replace any defective media with software which substantially conforms to applicable *Action*tec Electronics published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. *Action*tec Electronics makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third-party products listed in the *Action*tec Electronics software product documentation or specifications as being compatible, *Action*tec Electronics will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product or from use of the software product not in accordance with *Action*tec Electronics published specifications or user guide.

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Obtaining Warranty Service: Customer may contact *Action*tec Electronics Technical Support Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase from *Action*tec Electronics or its authorized reseller may be required. Products returned to *Action*tec Electronics must be pre-authorized by *Action*tec Electronics with a Return Merchandise Authorization (RMA) number marked on the outside of the package, and sent prepaid and packaged appropriately for safe shipment, and it is recommended that they be insured or sent by a method that provides for tracking of the package. The repaired or replaced item will be shipped to Customer, at *Action*tec Electronics' expense, not later than thirty (30) days after *Action*tec Electronics receives the defective product.

Return the product to:
(In the United States)
*Action*tec Electronics, Inc.
760 North Mary Avenue
Sunnyvale, CA 94085

*Action*tec Electronics shall not be responsible for any software, firmware, information, memory data, or Customer data contained in, stored on, or integrated with any products returned to *Action*tec Electronics for repair, whether under warranty or not.

WARRANTIES EXCLUSIVE: IF AN *ACTION*TEC ELECTRONICS' PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, CUSTOMER'S SOLE REMEDY FOR BREACH OF THAT WARRANTY SHALL BE REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT *ACTION*TEC ELECTRONICS' OPTION. TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, TERMS OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES, TERMS OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, CORRESPONDENCE WITH DESCRIPTION, AND NON-INFRINGEMENT, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. *ACTION*TEC ELECTRONICS NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF ITS PRODUCTS.

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LIMITATION OF LIABILITY: TO THE FULL EXTENT ALLOWED BY LAW, *ACTION*TEC ELECTRONICS ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCT, EVEN IF *ACTION*TEC ELECTRONICS OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT,OR REFUND OF THE PURCHASE PRICE PAID, AT *ACTION*TEC ELECTRONICS' OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

Disclaimer: Some countries, states or provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers, or the limitation of liability for personal injury, so the above limitations and exclusions may be limited in their application to you. When the implied warranties are not allowed to be excluded in their entirety, they will be limited to the duration of the applicable written warranty. This warranty gives you specific legal rights which may vary depending on local law.

Dispute Resolution: The customer may contact the Director of Technical Support in the event the Customer is not satisfied with *Action*tec Electronics' response to the complaint. In the event that the Customer is still not satisfied with the response of the Director of Technical Support, the Customer is instructed to contact the Director of Marketing. In the event that the Customer is still not satisfied with the response of the Director of Marketing, the Customer is instructed to contact the Chief Financial Officer and/or President.

Governing Law: This Limited Warranty shall be governed by the laws of the State of California, U.S.A., excluding its conflicts of laws and principles, and excluding the United Nations Convention on Contracts for the International Sale of Goods.